Decentralized Markets Versus the PESO Model

Cade Wilson

COLUMN Lab/INFO 5613

University of Colorado - Boulder

Dr. Brian Keegan

14 December 2022

Abstract

Public relations and marketing are foundational pillars of any form of business or selling, and so are the concepts in which they are comprised. A prime example of a concept which constructs these two pillars is the PESO Model. Since its publication in a 2014 public relations handbook, the PESO Model has been taught in business and communications schools across the country, and it has been held as the best practice when executing strategic campaigns. The PESO Model outlines the different forms of tactics a business uses to advertise themselves, their products, or their services; the acronym stands for paid, earned, shared, and owned, referring to a brand's types of media or tactics. To define these four concepts: paid advertising represents tactics where a brand is paying for media such as ad space, search engine optimization, social media influencer partners, etc.; earned represents media a brand earns through business success (i.e. the news covering a company's earnings report because it was so successful); shared media is the content which consumers or users spread themselves (i.e. one seeing a humorous billboard and posting about it online); owned media represents the brand's personal created content such as a company website or official company social media account. Too, a concept of note regarding this PESO Model is the ordering of the acronym – the order represents the most important bin of tactics to least important. This means that in the PESO Model, paid advertising is the most important and owned media is the least important, with earned and shared being second and third most important, respectively.

From 2014 to now, businesses and strategists have structured their campaigns around checking the box of each acronym letter of PESO; however, this is an outdated way of thinking that does not translate well to the modern, digital age and, specifically, decentralized markets. Since 2016, businesses have been seeing a 'growing resistance to advertising while there is an

increase in the use of social media' which is leading to a call for change in the PESO Model to change the order to SOEP. The inquired transition to SOEP means that shared media is the most crucial for a brand and paid advertising is the least important – a massive shift from the original PESO ordering (Macnamara, 2016). This suggested change is an indicator that the PESO Model is archaic and already out of touch with the current state of regular markets as social media and digital marketing evolve, and, within this exploratory data analysis, proof will be given to demonstrate that the PESO Model is also out of touch and not a best practice for decentralized markets.

Importance

The issue of uninformed or unupdated marketing tactics in decentralized markets matters because of the rapid growth of decentralization in the financial sector. As technology, news, and society have shifted in the last decade, the number of amateur investors has skyrocketed, as has the magnitude of the presence of cryptocurrency and non-fungible tokens. With the combination of these changes, the financial sector has shifted from being fully based in centralized markets, to professionals such as Forbes' investor advice columnists even recommending that one's portfolio include a percentage of decentralized finance (Hicks, 2022). Along with the expansion of decentralized finance into serious investing strategies, it has also begun to reach into more and more aspects of people's lives. This has been accomplished with developments such as web3, blockchain-based gaming, art or music being produced in non-fungible token format, or even in politics as recently seen with the cryptocurrency exchange, FTX, and Sam Bankman-Fried's government ties with direct political support and lobbying. Decentralized markets are no longer a

spectacle and, instead, are becoming more important to our lives, or they will come to be, as decentralization already is beginning to reach in so many directions.

Decentralized markets and finance are on track to become an even more domineering aspect of finance in society, so having a more firm grasp on how to conduct business in decentralized spaces will be critical as more brands and businesses move into the crypto space. Already, brands such as Louis Vuitton, Apple, Coca-Cola, Budweiser, Adidas, and Nike (to name just a handful) have ventured into decentralized spaces semi-successfully by producing non-fungible tokens themselves or creating a program or product centered around decentralized finance, and more large brands, as well as small, successful creators, enter the market each week. However, as previously mentioned, these ventures were semi-successful as they did not use very effective or successful marketing tactics given most people's ignorance to these campaigns. These brands used either no marketing as decentralization was merely a test, or they used traditional marketing, prioritizing paid aids in mainstream channels. There is much room for improvement and profit once a proper decentralized marketing framework is implemented, and this will better inform future advertisers, creators, and investors as an understanding of the workings of a novel, decentralized marketplace will be presented for future work. The ideated research questions driving this exploratory data analysis are the following: how does the PESO Model currently apply to a decentralized marketplace, and how does it need to be altered to better apply to said decentralized marketplace?

Secondary Research/Lit Review

To summarize literature related to the concepts of decentralized marketing and the PESO Model, work seems to indicate the need for a shift in the PESO Model's foundations. As previously stated, since its publication where commercial use increased in 2014, this framework for marketing and public relations has been considered the best practice for strategic communication plans. Along with the formation of tactics, the PESO Model has also been used to analyze communication between a business and its publics, and it has been used to help businesses develop a more complex understanding of their publics (Pieczka, 2019). This may have been effective during the mid 2010s, but now sectors are seeing a shift in priorities regarding a business's advertising tactics. In a 2016 research study done to analyze the state of the code of ethics in digital advertising and media, it was found that, "the traditional focus of 'paid, earned, and owned' media is changing with growing resistance to advertising and growth in social media" (Macnamara, 2016). This finding came alongside a prediction that shared media and owned media will be the most important media strategies, which has almost fully come true as we see most Gen Z marketing guides reference a need for a relatable or admirable brand personality for the consumer to relate to – to achieve this the focus would be on shared and owned media as those are what makes up a brand's personality. This shift in the PESO Model because of social media and the evolution of target markets is something also needed in decentralized spaces, given the extra nuances.

Moving to give background or clarity on some of the verbiage used, within this exploratory data analysis, the decentralized market being analyzed is the GameStop Marketplace, which launched in July 2022. There are a plethora of decentralized marketplaces where buyers and sellers reside such as Open Sea, Token Trove, Immutable, etc., but with the corporate name

behind the GameStop Marketplace this decentralized market offers the most potential given its resources, customer support capabilities, and the passion of the activist investor entangled with GameStop, Ryan Cohen. Too, this market utilizes the Layer 2 Ethereum blockchain rather than the standard Ethereum blockchain used by more established marketplaces like Open Sea. This usage of Layer 2 is part of what sets GameStop's Marketplace apart from the others that are as large as the benefits for the consumer are immense in comparison to Layer 1. When the main layer, or layer 1, of the Ethereum blockchain is being used, all of the transactions which occur are being processed in the same space essentially. By utilizing a Layer 2 scaling solution, the throughput of transactions can increase as the transactions occurring are being split between two blockchain layers. This leads to faster transaction speeds as well as lower gas fees for buyers, the fees taken to execute trades on the blockchain (Nambiampurath, 2022).

Regarding the limitations of current marketing tactics in the decentralized market space, an article from a non-fungible token handbook performs a review of the marketing literature accessible for non-fungible tokens between 2015 and 2021. From this study, three marketing conclusions were drawn regarding what to market for non-fungible tokens: marketers should leverage uniqueness and scarcity, perception of status among users, and innovativeness & materialism (Sestino, Guido, & Peluso, 2022). When applying these relatively all encompassing findings for decentralized marketing to the PESO Model, there is a lack of alignment between the PESO Model's order of tactic importance and what is important when marketing a non-fungible token. First, the PESO Model prioritizes paid advertising; when we view the three conclusions drawn from decentralized marketing literature, promoting uniqueness, status, or being ahead of the curve, none of these can be fully accomplished from a paid ad. In order to promote the uniqueness and status bolstering qualities of a product, a brand needs shared media

which features users creating a community where that status exists and the uniqueness matters. The same can be said for consumers feeling as though they are being innovative by purchasing a product or having the human desire of materialism and finding joy through purchasing said item; a brand is unable to create that with a commercial or paid Instagram ad, and, instead, that consumer feeling or product aura is created through branding on owned channels and, again, the shared media which consumers post that perpetuates a prestige associated with a brand or product. Based on these three marketing conclusions, we can see how immediately the PESO Model breaks down with its priority being paid ads rather than shared and owned media. The model continues to break down further, too, as earned media would be the next priority and also ineffective at generating hype, status, and innovation for consumers given the media distrust and reliance on social media for news. People do not want to hear what CNN has to say about your brand, it matters more what those online have to say.

The last concept to highlight for background and context is that of compartmental models and spreading processes in network science. SIS epidemic models made up of discrete-time models or different equations are applicable in describing the node behavior in this decentralized marketplace (Allen, 1994). When viewing the decentralized market as a network, the nodes are made up of buyers and sellers, the edges are their transactions, and the SIS compartmental model is able to describe the previously covered, non-fungible token marketing literature conclusions. Those three conclusions regarding what is important when marketing a non-fungible token were scarcity & uniqueness, status, and innovation/materialism; these three concepts can be boiled down to one term, loosely, which is hype. Generating this hype among consumers with owned and shared content leads the network's nodes to follow the SIS model through buyer nodes being susceptible (S) to buying into a brand's hype, the buyer being convinced (I) to be apart of a

community or buy a product from a seller node, and the buyer being susceptible (S) to hype once again after a project has lost its spark. This network science concept of spreading processes with the SIS compartmental model, in particular, is crucial to understanding how the spread of information works in decentralized marketplaces and, therefore, how to better advertise to the involved audience, or buyer nodes.

Methods & Data

Pivoting to how this exploratory data analysis was done with what, as previously mentioned in the literature review, the decentralized marketplace being focused on is the novel GameStop Marketplace which was released in July of 2022. This marketplace is a prime example of a decentralized marketplace that also offers consumers unique benefits given its usage of Layer 2 scaling solutions on the Ethereum blockchain. Once again, these Layer 2 benefits include faster transaction speeds, low gas fees, and higher throughput as Layer 2 acts as a scaling solution for the Ethereum blockchain. Moreover, this marketplace also has substantial potential for longevity in decentralized finance given its large corporation base as opposed to more indie-esque platforms like Open Sea that lack resources and customer support oftentimes. In terms of how this kind of network is used, it is akin to an ecommerce website like Amazon, buyers enter the site in order to purchase an asset from a seller. The difference is in the products in which a buyer may find; non-fungible tokens can range from static pieces of art to season passes that grant the holder monetary rewards, but they are not tangible items, they can only represent tangible items. This means that the marketplace often ends up being used as a stock market where buyers purchase assets in the hopes of seeing a return on their investment, but

there is still a plethora of traditional commerce where the asset's focus is in its ownership, self-governance, or the asset itself rather than the profit it can generate.

Within the GameStop Marketplace, two case studies were done on non-fungible token projects to analyze their marketing tactics to determine to what extent the PESO Model applies to decentralized markets. The projects analyzed were CYBER CREW [C4] and MetaBoy, both of these projects released assets to the public on the GameStop Marketplace on day one as they were pioneering creators for the platform, this means they essentially started from the same point regarding community, consumer awareness, and project scale. The way in which analysis was conducted was through social media mining on Twitter and Discord. On Twitter, the Twitter API v2 was utilized in order to create and download a CSV file of all of MetaBoy and CYBER CREW's tweets separately, including engagement metrics, in Python through Jupyter Notebook. On Discord, Tyrrrz's DiscordChatExporter from GitHub was used to create and download a CSV file of MetaBoy and CYBER CREW's general chat logs, including unique identifiers to differentiate message senders, via the macOS Terminal. These four CSV files were then cleaned via Tableau Prep, then analyzed via Tableau Desktop. Regarding how the data was analyzed, once in Tableau Desktop, the tweet contents were sorted by date and a bar chart was created to visualize each tweet's number of retweets and favorites – these metrics were used to indicate the number of impressions a tweet received, or the popularity/reach. The Discord data was also sorted by date, but rather than displaying the message content, one bar graph was made to represent the number of unique authors per week and another bar graph was made to represent the number of general messages sent by day in the Discord server. These two graphs were used in order to determine at what points in time the Discord server was seeing an increase in message senders and messages sent in total.

When viewing the decentralized landscape with cryptocurrency, non-fungible tokens, crypto exchanges, etc, the majority of marketing and consumer activity is based on social media. Specifically, the majority of marketing and consumer activity is based on Twitter, up to now and currently, and Discord. These decentralized brands use Twitter in order to do the majority of their audience accumulation, hype generation, and brand awareness with the Twitter account acting as their primary and most important owned media tactic. The brands then use the Twitter account in order to funnel users into their Discord server, where the community engagement and interactions are much more intimate and the temperature of a brand's market is much easier to gauge. This is a phenomenon that will come more to light in the following two case studies, but the phenomenon is the reason why the two channels were specifically used in this data exploration.

Case Study #1: MetaBoy

The initial case study conducted was on the MetaBoy collection. MetaBoy is a collection of 10,000 unique non-fungible tokens that debuted on the GameStop Marketplace for public sale on July 11th, 2022. However, MetaBoy's marketing history began earlier than the collection drop date with the Twitter account having been created in March 2021. The account remained inactive with no tweets for some time until April 5th, 2022 when they teased their affiliation with GameStop for the first time, gaining some attention around corners of the internet already affiliated with the company, such as the Superstonk subreddit. From there, the marketing campaign began on June 7th, 2022 when MetaBoy first teased official images of the collection and began implementing strategic tactics. The unique, and highly successful, way that MetaBoy marketed themselves starting from scratch with an affiliation to a relatively ignored company's

new decentralized marketplace was through giveaways. From the beginning of the campaign in June 2022, MetaBoy utilized a snowball method of susceptible (S) buyer node capturing by giving away particularly unique assets in their branded pixel-art style (1/1, scarce pieces) to users who engaged with the brand online. Users who interacted with the giveaway tweet in a variety of ways such as retweeting, following the account, favoriting, tagging friends, or following other affiliated accounts were able to enter the giveaway and have a chance to win this rare, and potentially very profitable, asset. This tactic performed very well for MetaBoy as they gained thousands of followers and were able to obtain far more impressions on their posts because of the newly accumulated eyes. From there, MetaBoy began pushing users to the Discord server they created in order to better understand their community and give consumers a voice in the brand that they are supporters of. In the span of a week, MetaBoy's Discord server went from 20 users to 1337 unique users due to organic growth and subtle pushes for consumers to join the channel in order to receive more in-depth and timely information about the brand and future releases. These subtle pushes were executed through tactics such as including a giveaway caveat that the user must join the Discord server to enter and including very valuable information in the server such as a bot which monitored and reported MetaBoy prices and trades on the GameStop Marketplace for those looking to buy or sell an asset. Among the owned media of Twitter and Discord drawing in many buyer nodes with the associated marketing tactics, earned media was also present incidentally as the success of the MetaBoy collection on the early GameStop Marketplace was reported on by related outlets and Twitter news accounts such as GMEdd (about 60,000 Twitter followers), the wallstreetbets subreddit, and the Superstonk subreddit – moments akin to a local Fox channel covering a start-ups early success. However, these earned media moments did not have nearly the same impact as the moments created by MetaBoy's

owned and shared marketing tactics which generated almost all of their following, and naturally profits. The giveaways posted by MetaBoy and shared around by their targeted susceptible consumer nodes were the most successful tactic utilized in their marketing campaign; this directly disagrees with the PESO Model as paid advertising is not present, and the earned media moment had little to no impact on the growth of MetaBoy, only highlighting the successes and growth of the collection thus far. Regarding the Discord channel, once users were funneled and captured in the server, they were met with opportunities to engage with the brand and community through community lounges, fanart & memes, the aforementioned market tracking bot, and MetaBoy holder giveaways where those who owned a MetaBoy asset were able to enter exclusive giveaways for monetary or asset prizes.

As time progressed in the MetaBoy marketing campaign, less focus was put into the Discord server and more effort was put into transitioning to real life, traditional marketing. This was, and is being, done through MetaBoy acting as a sponsor for gaming tournaments and setting up booths where people are able to buy physical merchandise and learn more about decentralization, Layer 2, and the GameStop Marketplace, all methods of paid advertising. This has led to a substantial decline in MetaBoy's success on the GameStop Marketplace and has led to buyer nodes returning to susceptible from infected in comparison to when they relied on owned and shared media as other projects have emerged with more appealing assets or more appealing marketing, such as the next case study.

Case Study #2: CYBER CREW [C4]

The second case study conducted was focused on the CYBER CREW [C4] collection on the GameStop Marketplace. This collection currently features 16 different assets, with those assets having 100+ copies typically, meaning more than one buyer can own the asset as opposed to it being one of a kind. From the start, CYBER CREW took a different approach to marketing than MetaBoy as they began marketing further from the marketplace's release than MetaBoy, and took an approach of being a source of information on their owned media to educate potential buyer nodes. The first tweets in CYBER CREW's campaign were related to explaining what the brand is and what the marketplace will be. From there, the brand then began to use a strategy similar to MetaBoy through giveaways; after teasing images of upcoming assets and using multi-creator marketing (partnering with other creators to boost each other's social media following) to quickly capture the attention of susceptible buyer nodes who encountered the owned and shared media, they also began using snowball means of generating susceptible buyer nodes through giveaway requirements being actions such as retweeting, favoriting, tagging friends, and joining the Discord server. Similarly to the MetaBoy case, these giveaways were highly successful at not only engaging the currently infected consumer nodes but also capturing new ones. Another way in which CYBER CREW marketed itself early on and to the current day is by emphasizing the utility of the assets as they have different benefits and usability – something that MetaBoy was unable to capitalize on as their assets were digital art pieces without utility. This was a way that CYBER CREW very successfully took advantage of the market conclusion of innovation featured in the literature review; the assets they offered and offer are material, meaning they are innovative and attention grabbing compared to competitors, and by highlighting this to users they are promoting uniqueness and status for being a part of the

cutting edge. Moving back to a similarity with MetaBoy, CYBER CREW also had an earned media moment where the creators were invited on camera and interviewed by a small decentralized news platform on Twitter and the platform's website; however, this was a blip in the broader marketing campaign and had no significant role in the early growth of CYBER CREW's market share compared to the owned and shared media being spread, generating hype among the susceptible buyer nodes in the decentralized network and accumulating infected buyer nodes.

Along with these strategic tactics used by CYBER CREW, the brand also used and uses its owned media Twitter account in order to create and perpetuate a unique brand personality for susceptible and infected consumer nodes to engage with. This has been accomplished through community engagement like meme generation contests, quirky, real-life challenges for prizes, and through using brand standards and a memorable character voice in their tweets and Discord messages – owned and shared media tactics. Throughout CYBER CREW's past and present marketing campaign, they have never used paid advertising and have solely built their large following, large fortune, and large place in the market off of owned and shared media through Twitter and Discord. They have been able to do this by highlighting the utilities offered by their assets which are highly desirable, and often profitable, for the buyer node, holding giveaways with engagement requirements, and building a brand personality which all have been successful in generating hype for CYBER CREW – hype being the culmination of the three marketing literature conclusions recurring in this analysis of uniqueness & scarcity, status, and innovation & materialism.

Commentary & Results

The first note of commentary to add to the previous case studies on MetaBoy and CYBER CREW [C4] is proof of the success of different marketing tactics used by the two projects. In order to determine the success of a tactic, the tweets of the collection were sorted in Tableau from greatest to least regarding engagement metrics such as retweets or favorites. From there, the best performing tweets were recorded and the day the tweet was posted was then analyzed within the Discord data in order to see if there was an increase in authors and messages because of activity on the other platform. Discord was the evaluative data source due to the nature of both marketing campaigns trying to funnel users into a Discord server for more intimate community engagement – the theory, and what occurred, was that if a marketing tactic was successful on Twitter in gaining buyer nodes there would be an increase in Discord activity because they are directly, positively correlated. Examples of this are the weeks with the most Discord activity, according to the data:

Figure 1.1 MetaBoy Discord Number of Authors & General Chat Messages by Week

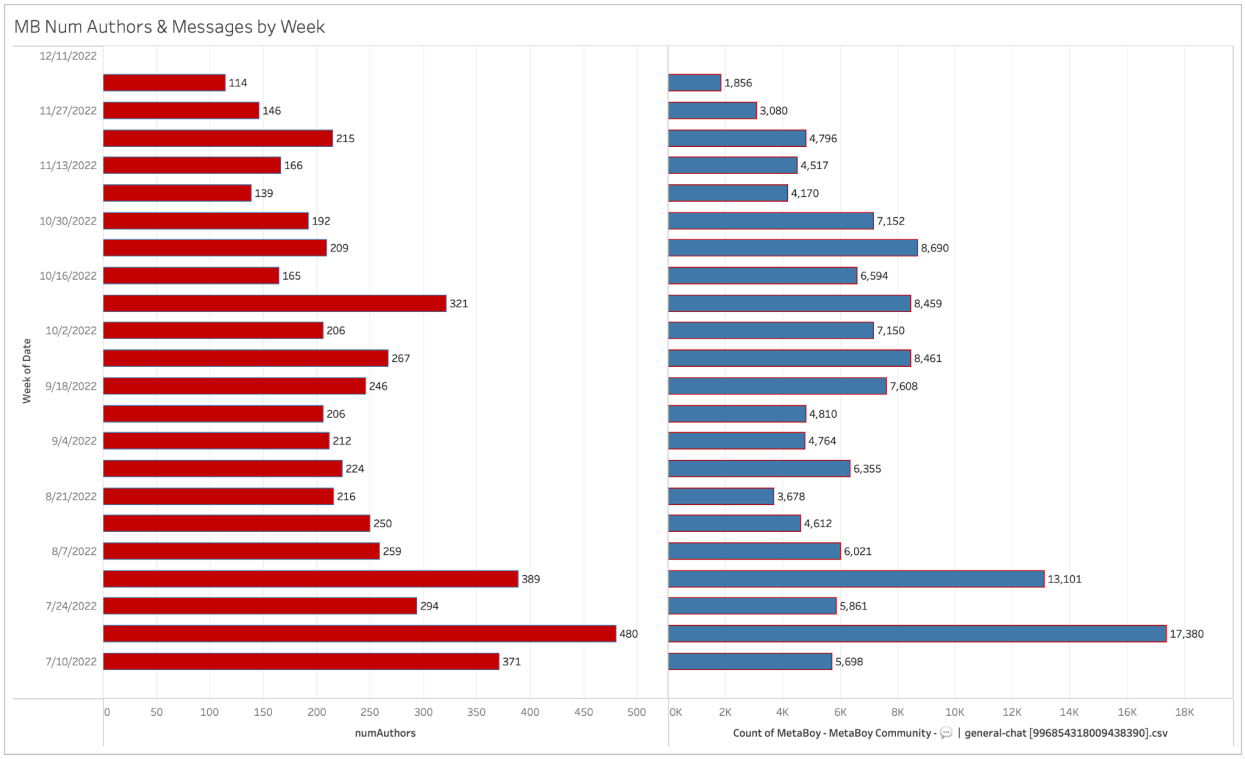
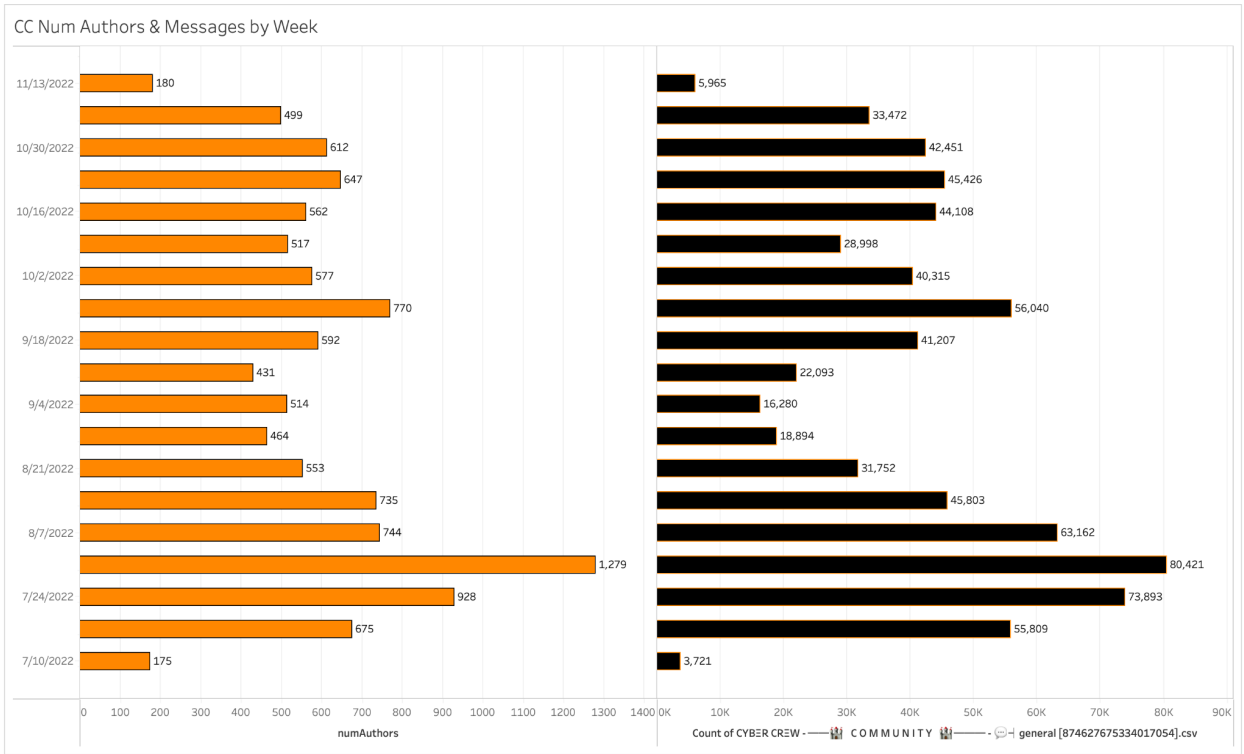


Figure 1.2: CYBER CREW Discord Number of Authors & General Chat Messages by Week



When doing a cross-channel analysis of the spikier weeks of Discord activity on Twitter, the explanations are mostly, obviously apparent and able to be attributed to a marketing tactic which was executed on Twitter. For example, in Figure 1.2 for CYBER CREW [C4]'s Discord metrics, the week of 7/24/2022-7/31/2022 had a particularly high amount of server engagement, and, when looking at the Twitter during that timeline, one can see how owned and shared media were being used, the following were the recorded observations for the Twitter timeline that week:

Figure 1.3 CYBER CREW [C4] Twitter Observations - July 24-July 31, 2022

7/24: Giveaway announced, Interaction with Blockbuster on Twitter
7/25: The Quadratic Necromancer (TQN) keys sold out (Protocol Gemini NFT game), 1/1 piece auctioned off
7/27: Hype generation for upcoming project(s), pumping Discord while building hype 'less than 100 people until 3000 Disc members' callout for more to join
7/28: Discord meme contest concludes and winners were announced, pumping certain assets 'this current price on this item is a steal'
7/29: Hype generation, sneak peek revealed prior to weekend for Monday (snapshot date = 8/1 (Mon) for Chrome Claw airdrop)
7/30-7/31: Snapshot info/announcements for Monday; hype

The combination of these marketing tactics involved infected and susceptible node engagement and was based in owned and shared media alone, and these tactics proved particularly successful as Discord engagement saw a significant increase compared to more average weeks. With the method of determining success established, the following types of media under shared and owned media proved successful between the two collections on Twitter in regards to the Twitter metrics and their correlation to the Discord metrics: giveaways, highlighting asset utility, asset teasers, user-generated content, and announcements (airdrops, mint dates, collaborations, etc.). The success of these tactics can also be demonstrated by the Tableau descending organization of

tweet metrics, too. As one can see, the top tweets for both MetaBoy and CYBER CREW [C4] are all either giveaways, announcements, asset-utility, or asset teasers:

Figure 1.4 MetaBoy Top Tweets by Retweets and Favorites

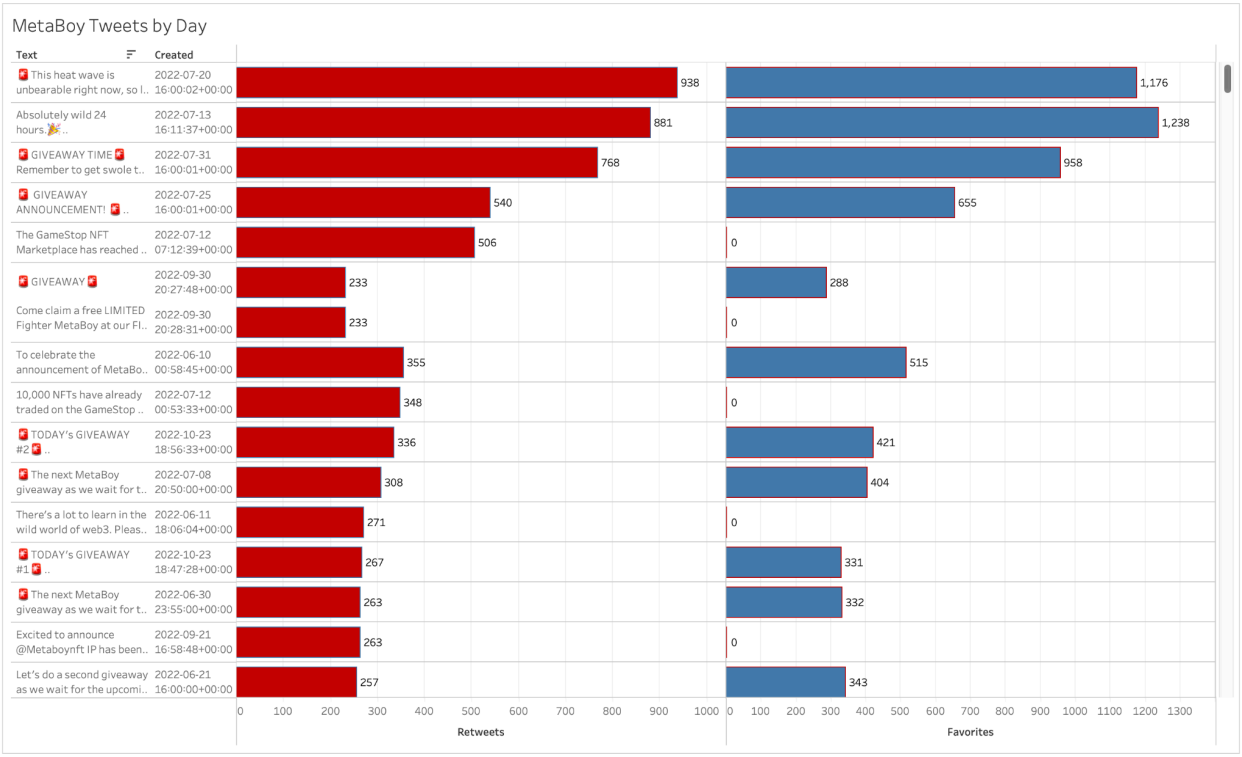
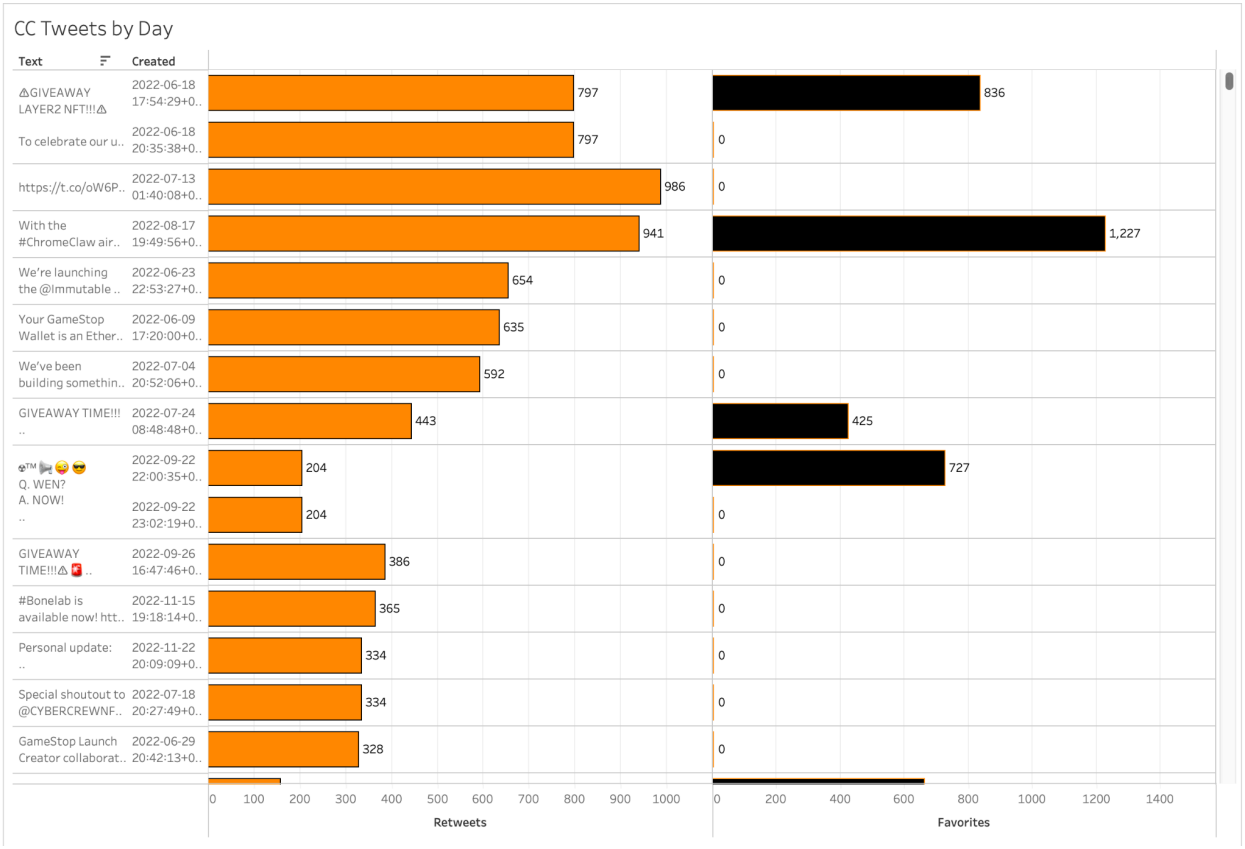


Figure 1.5 CYBER CREW [C4] Top Tweets by Retweets and Favorites



When viewing the weeks with the most Discord activity between MetaBoy and CYBER CREW [C4], those five tactics were always used either individually or in combination with other tactics. This goes hand in hand with the background information and literature review presented earlier as the five successful tactics directly relate to the three non-fungible token marketing literature conclusions and the SIS compartmental model of network science and epidemiology. The following table outlines how each of the five tactics fits into one of the three market conclusions:

Figure 1.6 NFT Marketing Conclusions Versus Five Most Successful S/O Tactics

Uniqueness & Scarcity	Giveaways - unique or rare items with a potential for profit are given away; scarcity created through hundreds or thousands of users all getting a small chance to win something deemed special
Status Elevation	User-generated content - being a part of a community, having the right to use your asset to be a part of something others are not
Innovation & Materialism	Highlighting asset utility - demonstrating an asset's materiality Announcements - strengthening the link between seller and buyer nodes via transparency and the consumers being in the know for what is coming next Asset teasers - showing how special an upcoming asset will be to get people excited to buy it
Generating Hype	Giveaways User-generated content Highlighting asset utility Announcements Asset teasers

With all five of these tactics being able to be binned into one of the three market conclusions, or all falling into the culmination of non-fungible token market literature which is to build hype, the SIS model becomes more apparent within this decentralized network as well. All buyer nodes start as susceptible (S) in the decentralized market as they are new users, and, as time goes on, these buyer nodes will be exposed to various means of hype generation from different collections. As the buyer node interacts with giveaways, user-generated content, asset utility, announcements, and asset teasers from a project's marketing efforts, the node breaks into the infected category (I) being the hype has been generated for that consumer and they now will have a transactional link to the seller node. From there, the ending of the spreading process can

be ambiguous as some buyer nodes stay loyal to a seller node based on network attributes such as the asset utility after the transaction, future assets offered by the seller node, etc. and some stray away to a new collection starting from susceptible to become infected once again. However, whichever way the buyer node goes after the initial marketing effort the model remains a helpful tool to assist in understanding how the decentralized market network operates with susceptibility representing a consumer whom is able to be hyped up for a decentralized asset until they are infected and chose to buy or become a part of a community.

Based on the two case studies on MetaBoy and CYBER CREW [C4], there is evidence that the PESO Model in its current form does not apply to marketing in decentralized markets. As mentioned at the beginning of the analysis, the research questions at hand are: how does the PESO model apply to decentralized markets, how does it need to be altered to apply? The tactics used by these two projects were almost exclusively based in the S (shared) and O (owned) of the acronym, which, according to the model, are the least important types of tactics, as the order of the acronym represents the order of importance. This analysis suggests when producing a strategic communication campaign in a decentralized market, the marketer should follow an SOE Model in order to be most effective and see success in an environment such as the GameStop Marketplace. This is also shown to be effective through the SIS compartmental model which demonstrates the way in which consumer nodes respond to hype building for a decentralized asset. Using this SOE Model means prioritizing what kind of content users share about the brand, prioritizing the brand's owned content such as social media accounts/personalities and types of content posted, and then having some awareness of any earned media comes incidentally from success in order to capitalize on it by reposting it on an owned media channel, for example. This way, the shared and owned media of a brand are able to convince susceptible buyer nodes of an

asset's uniqueness, associated status, or materiality until they break, become infected, and buy the hype. The data and network science concepts tell us the PESO Model needs to be reworked to something along the lines of the SOE Model described in order to maintain relevance in decentralized markets; markets where spreading processes and the process of hype generation based on the three non-fungible token marketing conclusions outweigh the ideals and best practices of traditional marketing. 'Non-fungible tokens (NFTs) challenge established marketing understanding of digital ownership, uniqueness, and value; authenticity, status, and sharing; and branding and distribution' (Hofstetter et al, 2022).

The next steps for this project would be taking the data analysis further and comparing financial events to this social media mined data; however, the blockchain has some limitations which prevented the researcher from being able to obtain the right kind of financial data for the analysis at the time, only personal financial history data is able to be downloaded from the GameStop Marketplace or Layer 2 blockchain to the researcher's knowledge, as of now. Too, something to come from this work could be doing a deeper analysis of these past or current decentralized marketing campaigns in order to not compare them to traditional concepts, but to create a unique decentralized framework or marketing handbook in order to tend to the specific needs of the market and spreading processes. This could be done by operationalizing and officially binning these five marketing tactics and explaining how, when, and why they are used and to what degree of success they incur on average among projects on the GameStop Marketplace, or other decentralized marketplace. The third direction which is a visible next step would be to design and implement a survey to decentralized market buyer node actors in order to categorize common demographics and traits. This would better inform future decentralized marketing efforts and business practices of all kinds as having an in-depth understanding of the

susceptible buyer nodes in this network is critical to strategic success. The survey could be made up of standard marketing survey questions to gauge consumer personality and characteristics, but the administration would have to be done in a relevant fashion to a decentralized market user. An example of a relevant channel to distribute this survey could be to post it on a subreddit centered around decentralization or in a project's Discord server, perhaps. There are many different directions to go and possibilities still uncovered regarding decentralized markets as they continue to expand into more facets of daily life; this analysis is merely a starting point for the evolution of decentralized business conduction and marketing models to come in the future.

Works Cited/Consulted

Allen, L. J. S. (1994, January 4). *Some discrete-time SI, SIR, and SIS epidemic models*. ScienceDirect. Retrieved December 13, 2022, from https://doi.org/10.1016/0025-5564(94)90025-6

Auckland, B. W. U. of, White, B., Auckland, U. of, Auckland, A. M. U. of, Mahanti, A., University, K. P. L., Passi, K., University, L., Lyon, I. N. S. A., Eurecom, 1, U. L., retired, W. C. /, & Metrics, O. M. V. A. (2022, April 1). *Characterizing the OpenSea NFT Marketplace: Companion Proceedings of the web conference 2022*. ACM Conferences. Retrieved December 13, 2022, from https://dl.acm.org/doi/abs/10.1145/3487553.3524629

E. Kafeza, G. Rompolas, S. Kyriazidis and C. Makris, "Time-Series Clustering for Determining Behavioral-Based Brand Loyalty of Users Across Social Media," in IEEE Transactions on Computational Social Systems, 2022, doi: 10.1109/TCSS.2022.3219781.

Gini Dietrich September 8, 2020. (2020, September 7). *What is the peso model...and how do I use it?* Spin Sucks. Retrieved December 13, 2022, from https://spinsucks.com/communication/peso-model-breakdown/#:~:text=The%20PESO%20model%20officially%20launched,the%20process%20or%20named%20it

Hicks, C. (2022, October 4). *How much crypto should be in your portfolio*. Forbes. Retrieved December 13, 2022, from https://www.forbes.com/advisor/investing/cryptocurrency/invest-in-cryptocurrency/

Hofstetter, R., de Bellis, E., Brandes, L., Clegg, M., Lamberton, C., Reibstein, D., Rohlfsen, F., Schmitt, B., & Zhang, J. Z. (2022, July 29). *Crypto-marketing: How non-fungible Tokens*

(nfts) challenge traditional marketing - marketing letters. SpringerLink. Retrieved December 13, 2022, from https://link.springer.com/article/10.1007/s11002-022-09639-2

Layer 2. ethereum.org. (n.d.). Retrieved December 14, 2022, from https://ethereum.org/en/layer-2/

Nambiampurath, B. R. (2022, July 15). *What are layer 1 and Layer 2 blockchain networks?* The Defiant. Retrieved December 13, 2022, from https://thedefiant.io/what-are-layer-1s-and-layer-2s

panelJimMacnamaraaPersonEnvelopeMayLwinbAnaAdicAnsgarZerfassd, A. links open overlay, JimMacnamaraaPersonEnvelope, a, MayLwinb, b, AnaAdic, c, AnsgarZerfassd, d, ‘paid, H. T. traditional focus on, & AbstractIt is well established that the internet. (2016, March 26). *'peso' media strategy shifts to 'soep': Opportunities and ethical dilemmas*. Public Relations Review. Retrieved December 13, 2022, from https://www.sciencedirect.com/science/article/abs/pii/S0363811116300248?casa_token=8Xlwl2UITwkAAAAA%3AuMMPSh3v6ff-AtxBCJzHfupAI9ZxPaaq7iIu37ufmXARTVKHtajF5vwX52KGOT8BTqs4sE2fLMI

Pieczka, M. (2019). Looking back and going forward: The concept of the public in public relations theory. Public Relations Inquiry, 8(3), 225–244. https://doi.org/10.1177/2046147X19870269

Sestino, A., Guido, G., & Peluso, A. M. (2022, July 2). *A review of the marketing literature on NFTS*. SpringerLink. Retrieved December 13, 2022, from https://link.springer.com/chapter/10.1007/978-3-031-07203-1_3